

## Rating Criteria for State Electricity Boards

The Indian power sector has long been dominated by central and state government entities. It comprises central power utilities, state electricity boards (SEB), private licensees and independent power producers (IPP). SEBs generate more than 60% of the country's power and distribute most of its supply. They are the primary purchasers of power from the central generators and IPPs because of their mandated monopoly over retail power distribution under Indian electricity laws. The central and state governments have, however, realised the need for initiating reforms in the industry and have started establishing regulators for central and state utilities. Consequently, the industry is in a state of flux with reforms at various stages of implementation in different states across the country.

CRISIL has been actively associated with the credit assessment of SEBs apart from evaluating the payment security packages that SEBs (and their state governments) have been offering to facilitate the establishment of IPPs. Additionally, CRISIL has rated the debt issues of SEBs, which have usually been in the nature of structured obligations, where other forms of credit enhancements like state government guarantees and escrow accounts have been used.

Outlined below are the criteria used by CRISIL to evaluate and rate SEBs. CRISIL gives due importance to both the business and financial risk profile of SEBs in its rating process. The key elements of business risk are:

*Industry and policy environment*

*Regulatory risk*

*Market and service area*

*Operations*

*Project implementation*

### ■ Business risk

#### *Industry and policy environment*

Most SEBs have a weak financial profile. Further, they are fully owned by their respective state governments. Hence, CRISIL believes that evaluating the support extended to them by the central and state governments through policies and regulations is important in the overall credit assessment. CRISIL considers the regulations governing SEBs and the political environment in the state as the major factors critical to their performance. CRISIL views favourably any measures initiated by the respective government in its power policy to improve a SEB's financial performance and give it operational independence.

As part of the reform process, certain SEBs have started unbundling the board into separate power generation, transmission and distribution companies. In a few cases, some of the unbundled entities have been privatised. CRISIL evaluates the status of the reform process in the state and gives due consideration to the deregulation and autonomy granted to the various unbundled entities. Given the current power deficit situation in the country, most SEBs are unlikely to face any serious demand risk or competition in the medium term despite a spurt in captive generation.

### **Regulatory risk**

In the past, SEBs have never had the authority to fix power tariffs. As they are completely owned by the state government, historically, tariffs have been decided by the government based on political rather than economic and commercial considerations. This has led to high levels of subsidisation, which has weakened the SEBs' financial position.

With the initiation of reforms, the central and state governments have identified the need for an independent regulatory body in each state as an integral part of the deregulated power industry. The central government and some state governments have already set up their respective electricity regulatory commissions (ERCs). The ERCs have clearly identified operational inefficiencies in the SEBs and have set stiff targets for improvement on parameters like transmission and distribution (T&D) losses, station heat rate, plant load factor (PLF) and availability of thermal generation plants.

SEBs are exposed to regulatory risks on account of the stiffer operational targets set by ERCs coupled with the reducing support from state governments. ERCs have also started the process of tariff rationalisation, reducing the degree of cross-subsidisation between various client segments. In light of these developments, CRISIL evaluates the degree of flexibility available to the SEB to raise revenue, its impact on the consumer mix and the SEB's operational performance.

Moreover, with the establishment of the Power Trading Corporation and the initiation of the process of forming a national grid, inter-state sales of power and trading of power as a commodity is expected to become a reality. Thus, regulatory changes are exposing SEBs to higher competition from traders and entities outside the state.

CRISIL will closely monitor these changes to evaluate the SEBs' performance.

### **Market and service area**

CRISIL analyses a SEB's consumer mix and service area to assess the demand potential. It assesses the consumer mix in terms of domestic, commercial, industrial and agricultural users, and the realisations from each of these segments. CRISIL believes that revenue concentration in any particular consumer category affects the SEB's pricing flexibility. CRISIL also looks at the trend and degree of cross-subsidisation amongst consumer segments to assess the sustainability of the SEB's tariff policy.

Most SEBs cross-subsidise agricultural and residential consumers by charging higher tariffs to high-tension (HT) and low-tension (LT) users. CRISIL evaluates changes in the mix over a period of time as an indicator of future average realisations, and views a diversified and balanced consumer base with cross-subsidisation at sustainable levels as a positive factor. A track record of equitable tariff increases across user segments is a source of comfort to CRISIL

In practice, however, most SEBs have a patchy track record when it comes to their ability to increase tariffs to cover operational costs. Often, the decision to raise SEB tariffs is dictated by political compulsions at the state level. CRISIL would take a favourable view of SEBs that have already initiated the process of tariff reforms as they are favourably placed to improve their operational viability compared to their counterparts in other states.

### **Operations**

Historically, SEBs have been plagued by high T&D losses and old thermal generation plants that operate inefficiently with low PLF and availability, low station heat rates and the like. SEBs are also burdened with excess manpower at both the generation and distribution ends. CRISIL analyses the SEBs' operational risks on parameters like fuel supply arrangements, hydel-thermal mix, plant performance and environmental factors and evaluates their plants' operational efficiency.

The existence of dedicated and/or assured fuel linkages for power stations is a positive factor in CRISIL's analysis. CRISIL also looks at the receipt efficiency of the fuel linkage (fuel receipts as a percentage of the available linkage) as non-availability of fuel can potentially disrupt a SEB's operations. It also considers

the plant's proximity to the fuel source and the reliability of the fuel transportation system.

Besides, CRISIL critically evaluates the SEB's generation mix. A higher proportion of hydel power generation capacity lowers the total cost of generation and reduces the exposure to variations in fuel prices but it also leads to a higher generation risk due to the susceptibility to variations in rainfall. This risk is, however, reduced if the hydel plant's catchment area is fed by a perennial source.

The analysis also focuses on the SEB's operating performance on parameters like availability factor, PLF, T&D losses, auxiliary power consumption, station heat rate, personnel per MW of power and plant outages. CRISIL compares the SEB's operations on these parameters with other power utilities in India to assess its competitive position.

Given that growing environmental awareness has led to stricter pollution control norms today, environmental factors have assumed importance especially in the case of hydel power projects. CRISIL looks seriously at any violation of environmental or pollution control regulations. CRISIL also studies the emerging patterns in pollution control norms to assess whether or not the SEB would be able to comply with such norms.

### **Project implementation**

SEBs need to invest in expanding their generation capacities and improving their T&D infrastructure. Commissioning additional generation capacity is extremely critical to the SEBs' future capability to meet power demand. With a stricter regulatory regime coming in place, new T&D projects would also be critical for the SEB's future.

The gestation period of thermal plants is around three-four years while that of a hydel plant is higher because of delays caused by political and regulatory disruptions. The focus here is to determine the risks faced by the SEB in completing projects. CRISIL studies the pattern of financing employed by the SEB for approved and ongoing projects, and whether financing has been tied up. The financing mix in terms of market debt and internal accruals / government support is indicative of conservatism or otherwise. CRISIL conducts sensitivities on time and cost overruns to assess the SEB's ability to meet its debt servicing obligation. Projects nearing completion are viewed more favourably than greenfield

projects because they represent a relatively lower construction risk. CRISIL also gives due weightage to the SEB's track record in setting up projects.

### **Management evaluation**

Since power supply and power tariffs are politically sensitive issues, they attract varying degrees of political influence on the entities operating in this sector. SEBs are 100% owned by their respective governments. Hence, their policies are significantly influenced by political pressures. In CRISIL's opinion, the SEB management's ability to manage this pressure without compromising the board's interest is critical.

CRISIL also examines the management's goals and philosophies and its roadmap for achieving its short- and medium-term objectives. For instance, CRISIL evaluates the weightage that the management assigns to performance parameters in terms of the measures adopted to insulate fuel supply risks, project implementation skills, receivables management, financial goals and the like.

Apart from the loans extended by the state government for implementing various projects, CRISIL also evaluates the financial support extended by it in the form of subsidies. CRISIL also looks at the state government's track record in implementing reforms and in providing autonomy to the SEB.

### **Financial risk**

In analysing a SEB's financial risk profile, CRISIL evaluates its accounting policies, its current financial position and projected future cash flows.

### **Accounting quality**

CRISIL has a favourable opinion of entities that adopt conservative accounting practices. Although the Electricity Act has recommended accounting guidelines for SEBs, there is sufficient flexibility for SEBs to overstate their profits - a practice commonly adopted by most of them. CRISIL compares a SEB's accounting policies with that of other utilities and with companies in other industries to assess the quality of its accounts. Some accounting policies that significantly influence the SEB's profitability include depreciation, capitalisation of interest and expenses, provisioning for receivables and

bad debts, prior period expenses, contingent liabilities and the like. If required, financial statements are adjusted by CRISIL to provide an accurate picture of the SEB's financial position.

### **Existing financial position**

CRISIL's focus here is on analysing the SEB's past performance. The parameters assessed include trends in revenue from operations, costs and profitability analysis, management of receivables and payables, trend and outlook on subsidies and subventions from the state government, capitalisation, analysis of loans and borrowings, payment track record, coverage ratios and return on capital employed.

CRISIL compares the cost of power and the average realisation over a period of time to analyse the operations' profitability and sustainability at the gross level. The analysis is conducted separately for the SEB's own generated power and purchased power to estimate trends in each source. CRISIL also analyses the trend in cost of inputs like fuels, employee costs and the like to estimate their impact on the cost structure. A comparison with other utilities / SEBs on these parameters gives an indication of the SEB's relative position on the cost curve.

CRISIL looks for a credible track record in managing receivables and payables as this ensures that the SEB's operations are not disrupted. The prioritisation policy in making payments and the willingness to impose penal measures and enforce compliance are also evaluated. A SEB is highly dependent on the release of subsidies from the state government to meet its payment requirements. CRISIL looks at the trend in receipt of subsidies (received versus receivable) to determine the extent of dependence on the state government. This is done in conjunction with an analysis of state government finances to check for sustainability of subsidies and subventions to the SEB. Subsidy payments are crucial for a SEB to maintain its liquidity and CRISIL monitors these closely in order to assess the SEB's credit risk profile.

The SEB's borrowings are analysed in terms of their composition, sustainability of credit from existing sources and its ability to tap alternate funding sources. The analysis of debt coverage is carried out at both the operating profit before depreciation, interest and tax (OPBDIT) and the operating profit before interest and

tax (OPBIT) levels. For SEBs, the coverage is calculated on the total debt service coverage. CRISIL also looks at the debt coverage after adjusting for state government loans and interest payments since these are frequently either waived or adjusted against subsidy receivables by the state government.

### **Future cash flows and financial flexibility**

CRISIL focuses on a SEB's operational and financial forecasts to assess the degree of certainty in cash flow projections (under optimistic, pessimistic and most likely conditions). CRISIL attempts to predict the adequacy of projected flows to meet financial obligations after covering operational expenses, capital and working capital requirements and the like. The key factors in CRISIL's analysis are projected coverage levels and the quality of coverage, that is, the certainty that actual cash coverage will match projections.

A sensitivity analysis is conducted with respect to power tariffs, fuel prices and its availability, power purchase costs, plant availability and load factors, receivables collection and the like. CRISIL makes certain assumptions regarding these parameters to assess the impact of any variation in them on the SEB's future financial profile. The potential risk on account of movements in interest and exchange rates and their impact on debt coverage ratios are also assessed. The financial risk arising due to the regulatory environment is also incorporated in assessing the SEB's future cash flow adequacy.

CRISIL also attempts to determine the SEB's flexibility in raising funds from conventional and alternative sources to meet its financial obligations. In addition to institutional and market borrowings, SEBs depend on the respective state governments for loans to meet their capital expenditure needs. CRISIL's analysis covers the prospect of continued access to state government funds (which is related to the state's finances and priorities), higher access being a favourable feature. Alternative (non-governmental) funding sources could include supplier's credit, leasing or a line of credit from the World Bank. CRISIL assesses whether a capital expenditure plan can be deferred or curtailed in a financial crunch. Smaller capital expenditure plans with smaller gestation periods offer greater financial flexibility compared to a large capital expenditure project with an extended gestation period of no returns.

### ***Regulatory environment's impact on future financial position and financial flexibility***

ERCs generally lay down operational norms for power producers and distributors. The norms may be in terms of availability factors, level of T&D losses, station heat rate and the like. The extent of tariff recovered by power entities is partially linked to their performance vis-à-vis such norms. CRISIL benchmarks past trends in the SEB's operational performance against the ERC's norms to judge the financial impact on its operating margins in case its actual performance is different from the normative performance. The ERC's norms may also entail capital expenditure for purposes like renovation and modernisation of power plants and installation of meters. CRISIL looks at the financial flexibility available to the SEB to fund this additional capital expenditure without disrupting its regular capital expenditure plans. In addition, the speed with which the ERC issues tariff orders and redresses appeals also has a bearing on the SEB's profitability. CRISIL also analyses the effect of the implementation of merit order despatch system, if applicable, on the SEB's financial profile. Under the merit order despatch system, a SEB will have to first purchase power from the cheapest producer.

Thus, CRISIL believes that market and service area, unit realisations from consumer segments, flexibility to increase user charges and cost of operations are critical parameters in assessing a SEB's business risk. In analysing the financial risk, CRISIL focuses on the cost structure, the level of fiscal prudence as also the degree of alignment between the SEB's borrowing programmes and its revenue outlook.

### **State electricity board ratings: Key indicators**

#### ***Business risk***

- Energy and peak load deficits
- Consumer mix
- Unit realisations (consumer segment wise), and flexibility for increase
- Fuel receipt / linkage
- Capacity mix and age profile of generating plants
- Plant availability and load factors
- Specific fuel consumption
- Auxiliary consumption, heat rates
- No. of outages and durations
- Transmission and distribution loss
- Manpower / MW generated
- Track record in meeting environment norms
- Process of tariff rationalisation

#### ***State electricity board finances***

- Revenue from operations
- Subsidies and subventions from state government
- Intra-state sales vs. inter-state sales
- Cost of generation vs. cost of purchased power
- Unit cost of power vs. unit realisations
- Adequacy of provisions for bad debts
- SEB's debt profile
- Liquidity and current ratio
- Creditor and debtor levels
- Debt service coverage ratios
- Track record in meeting obligations to outsiders
- Cash flow from state government